

**Amendments to the Claims:**

This listing of claims replaces all prior versions and listings of claims in the application:

**Listing of Claims:**

1. **(Currently Amended)** An antimicrobial material in an encapsulated form, comprising (i) a core comprising an antimicrobial material and (ii) a shell of encapsulating material, wherein the shell of encapsulating material is impermeable to the antimicrobial material and comprises a hydrophobic shell material having a melting point above about 45°C, and wherein the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C.
2. **(Original)** An antimicrobial material according to claim 1 wherein the antimicrobial material is an antibacterial material.
3. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the antimicrobial material is a bacteriocin.
4. **(Original)** An antimicrobial material according to claim 1 wherein the antimicrobial material is an antifungal material.
5. **(Original)** An antimicrobial material according to claim 1 wherein the antimicrobial material is at least natamycin.
6. **(Original)** An antimicrobial material according to claim 3 wherein the bacteriocin is selected from lanthionine containing bacteriocins, *Lactococcus*-derived bacteriocins, *Streptococcus*-derived bacteriocins, *Pediococcus*-derived bacteriocins, *Lactobacillus*-derived bacteriocins, *Carnobacterium*-derived bacteriocins, *Leuconostoc*-derived bacteriocins, *Enterococcus*-derived bacteriocins and mixtures thereof.
7. **(Original)** An antimicrobial material according to claim 1 wherein the antimicrobial material is at least nisin.

8. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the antimicrobial material is present in an amount to provide a microbicidal or microbiostatic effect.
9. **(Original)** An antimicrobial material according to claim 8 wherein the microbicidal or microbiostatic effect is a bactericidal or bacteriostatic effect.
10. **(Original)** An antimicrobial material according to claim 9 wherein the bactericidal or bacteriostatic effect is in respect of Gram-positive bacteria.
11. **(Original)** An antimicrobial material according to claim 9 wherein the bactericidal or bacteriostatic effect is in respect of an organism selected from species of *Bacillus*, species of *Clostridium*, *Listeria monocytogenes*, lactic acid bacteria, *Leuconostoc*, *Carnobacterium*, *Enterococcus*; *Brochothrix thermosphacta* and *Lactobacillus* species.
12. **(Original)** An antimicrobial material according to claim 9 wherein the bactericidal or bacteriostatic effect is in respect of *Listeria monocytogenes*.
13. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the shell is selected to provide sustained release of the antimicrobial material from the encapsulated antimicrobial material.
14. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the shell is selected to prevent, reduce or inhibit degeneration or inactivation of the antimicrobial material.
15. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the shell is selected to release the antimicrobial material from the encapsulated antimicrobial material under predetermined conditions.
16. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the shell is selected to release the antimicrobial material from the encapsulated antimicrobial material on

contact with a foodstuff.

17. **(Original)** An antimicrobial material according to claim 16 wherein the foodstuff is a marinade.

18. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the shell of the encapsulated antimicrobial material is capable of withstanding injection.

19. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the shell of the encapsulated antimicrobial material is capable of withstanding a pressure of greater than 1.5 bar.

20. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the encapsulated antimicrobial material is a particulate form.

21. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the encapsulated antimicrobial material has an average particle size of less than 150  $\mu\text{m}$ .

22. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the shell is selected to provide sustained release of the antimicrobial material from the encapsulated antimicrobial material.

23. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the shell is selected to prevent, reduce or inhibit degeneration or inactivation of the antimicrobial material.

24. **(Previously Presented)** An antimicrobial material according to claim 23 wherein degeneration is by one or more factors selected from heat degradation, pH induced degradation, protease degradation and glutathione adduct formation.

25. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the shell material is or comprises fats.

26. **(Cancelled)**

27. **(Previously Presented)** An antimicrobial material according to claim 25 wherein the fat is a triglyceride.

28. **(Previously Presented)** An antimicrobial material according to claim 27 wherein the triglyceride is a vegetable triglyceride.

Claims 29-31. **(Cancelled)**

32. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the encapsulated antimicrobial material is prepared by or is obtainable by a process selected from spray cooling, and fluidised bed coating.

33. **(Previously Presented)** An antimicrobial material according to claim 1 wherein the encapsulated antimicrobial material further comprises a chelator.

34. **(Original)** An antimicrobial material according to claim 33 wherein the chelator is selected from EDTA, citric acid, monophosphates, diphosphates, triphosphates and polyphosphates.

35. **(Original)** An antimicrobial material according to claim 33 or 34 wherein the chelator enhances the antimicrobial activity and/or antimicrobial spectrum of the antimicrobial material.

36. **(Previously Presented)** An antimicrobial material according to claim 33 wherein the chelator enhances the antimicrobial activity and/or antimicrobial spectrum of the antimicrobial material in respect of Gram-negative bacteria.

37. **(Previously Presented)** A composition comprising

- (i) an encapsulated antimicrobial material as defined in claim 1;

(ii) a carrier.

38. **(Original)** A composition according to claim 37 wherein the carrier is or comprises brine.

39. **(Previously Presented)** A composition according to claim 37 wherein the carrier and the encapsulated antimicrobial material have substantially the same density.

40. **(Original)** A composition according to claim 37 wherein the encapsulated antimicrobial material is modified to have substantially the same density as the carrier.

41. **(Original)** A composition according to claim 40 wherein the encapsulated antimicrobial material is modified by contacting the encapsulated antimicrobial material with oil.

42. **(Original)** A composition according to claim 41 wherein the oil is brominated oil.

43. **(Previously Presented)** A composition according to claim 41 wherein the carrier is modified to have substantially the same density as the encapsulated antimicrobial material.

44. **(Original)** A composition according to claim 43 wherein the carrier comprises xanthum gum.

45. **(Previously Presented)** A composition according to claim 37 wherein the carrier comprises an emulsifier.

46. **(Withdrawn- Previously Presented)** A protected foodstuff comprising

(i) a foodstuff, and

(ii) an antimicrobial material according to claim 1 or a composition according to claim 37.

47. **(Withdrawn)** A protected foodstuff according to claim 46 wherein the foodstuff is selected from raw meat, cooked meat, raw poultry products, cooked poultry products, raw seafood

products, and cooked seafood products.

48. **(Withdrawn)** A protected foodstuff according to claim 47 wherein the foodstuff is raw meat.

49. **(Withdrawn)** A protected foodstuff according to claim 47 wherein the foodstuff is a raw or cooked poultry product.

50. **(Withdrawn)** A protected foodstuff according to claim 46 or 47 wherein the foodstuff comprises whole meat muscle.

51. **(Withdrawn- Previously Presented)** A process for introducing an antimicrobial material as defined in claim 1 into a foodstuff comprising

(i) providing the antimicrobial material in an encapsulated form comprising a core of antimicrobial material and shell of encapsulating material; and

(ii) introducing the encapsulated antimicrobial material into or onto the foodstuff.

52. **(Withdrawn)** A process according to claim 51 wherein the encapsulated antimicrobial material is introduced into or onto the foodstuff by (a) injecting the encapsulated antimicrobial material into the foodstuff or (b) tumbling the encapsulated antimicrobial material with the foodstuff.

53. **(Withdrawn)** A process according to claim 51 or 52 wherein the encapsulated antimicrobial material is introduced into the foodstuff by injecting the encapsulated antimicrobial material into the foodstuff.

54. **(Withdrawn)** A process according to claim 51 or 52 wherein the encapsulated antimicrobial material is introduced into or onto the foodstuff by tumbling the encapsulated antimicrobial material with the foodstuff.

55. **(Withdrawn- Previously Presented)** A process according to claim 51 wherein

(i) the antimicrobial material is at least nisin,

(ii) the antimicrobial material is present in an amount to provide a microbicidal or microbiostatic effect in respect of *Listeria monocytogenes*,

(iii) the shell is selected to prevent, reduce or inhibit degeneration or inactivation of the antimicrobial material by one or more factors selected from heat degradation, pH induced degradation, protease degradation and glutathione adduct formation; and

(iv) the foodstuff is selected from raw meat products, cooked meat products, raw seafood products, cooked seafood products, raw poultry products and cooked poultry products.

56. **(Withdrawn- Previously Presented)** A foodstuff prepared by a process as defined in claim 51.

57. **(Withdrawn- Previously Presented)** A foodstuff obtainable by a process as defined in claim 51.

Claims 58-61. **(Cancelled)**

62. **(New)** An antimicrobial material in an encapsulated form, comprising (i) a core comprising an antimicrobial material and (ii) a shell of encapsulating material, wherein the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C.